

## SKF Cooper roller bearings – helping to keep the steel industry moving

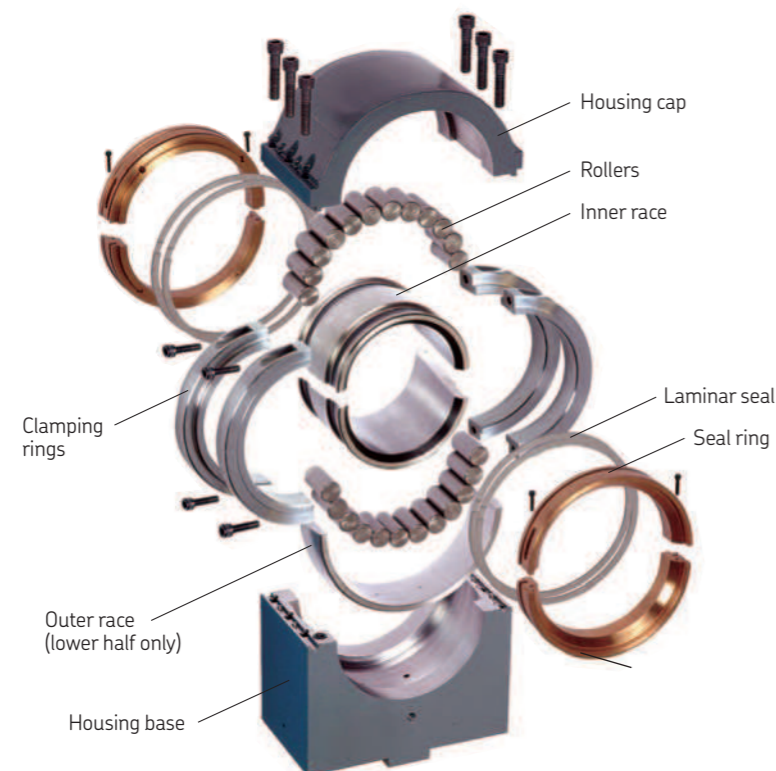
SKF Cooper has been working closely with steel-producing OEMs and end-users across the world for many decades.

Original inventor of the split roller bearing, SKF Cooper continues to invest in its development to keep pace with the changing needs of the steel industry. We believe that split bearings enable designers to create better machinery, by

liberating them from solid bearing maintenance constraints from the start. We also believe that replacement of existing solid bearings by split ones at any point can save future time and labour, particularly where such bearings are in any way 'trapped'.

## Easy to fit, easy to disassemble: the logic that underpins the cost benefits

SKF Cooper roller bearings are completely split to the shaft. They are designed and engineered to be extremely fast and easy to assemble into robust, reliable units that give exceptional service under the harshest conditions. The bearing shown here is a special watercooled model used widely in continuous slab casters.



## A wide range of mounting options

Available in a range of materials such as iron, nodular iron or steel, the variety of SKF Cooper mountings reflects the wide spectrum of tasks which split roller bearings can perform.

There is a full range of SN-, SAF- and SD-compatible pedestals. Watercooled bearings are supplied in special low-profile housings in cast or fabricated steel.



Plummer block housing with a two-bolt base



Flanged housing (round flange)



Hanger housing (single boss)



Take-up housing (tension type)



Take-up housing (push type)



Rod end housing (shoe type)

## Bearing series

SKF Cooper provides the widest assortment on the market. It includes four series of cylindrical roller, split tapered roller bearings and split spherical roller bearings.

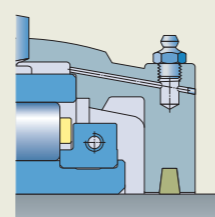
The standard assortment is available for bore sizes from 30 to 1 500 mm (1 1/4 to 59 in).

A comprehensive array of customization options to the standard design is also available. These include special internal clearances, lip configurations etc.

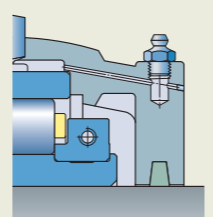


## The perfect sealing solution for your application

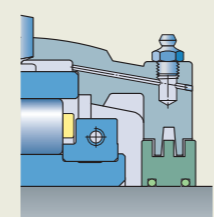
SKF Cooper offers a complete range of seals to achieve long bearing life by meeting the exact needs of a given location and working environment. Here are just four of our seals typically used in the steel industry.



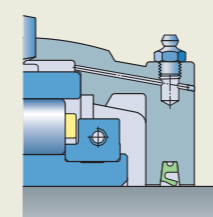
**Felt (F)** Standard in UK and Europe for most SKF Cooper bearings in general industrial applications.



**High temperature packing (HTP)** A direct replacement for felt in high temperature applications. Silicon-free version available.



**Aluminium triple labyrinth (ATL)** Suitable for high speed and high temperature applications.



**Synthetic rubber single lip (SRS)** Suitable for wet but not submerged conditions. Can be used for improved lubricant retention by mounting lip innermost.

## Split roller bearings for the steel industry



[skf.com](http://skf.com) | [cooperbearings.com](http://cooperbearings.com)

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# From raw materials to finished steel – SKF Cooper bearings can play a part in your profitability

You'll find SKF Cooper split roller bearings at work across the steel industry in the 30 or so applications shown in the table, and in many variations of each.

Raw materials	Smelting	Steelmaking	Steel forming	Across the industry
Stacker reclaimers	Coke ovens	Converters	Cooling banks/beds	Conveyors
Separators	Blast furnaces	Tundish rakers	Transfer tables	Gearboxes
Bucket elevators	–	Continuous slab casters	Quench tanks	Cranes
Rotary and vertical kilns	–		Reheat furnaces	Motors and generators
Fans	–		Breast rolls	Crankshafts
Conveyors	–		Rolling mill drives	Flywheel/brake sets
Crushers	–		Link spindles	Fans and blowers
			Skidbanks	
			Crop shears	
			Coilers	
			Pilger mills	



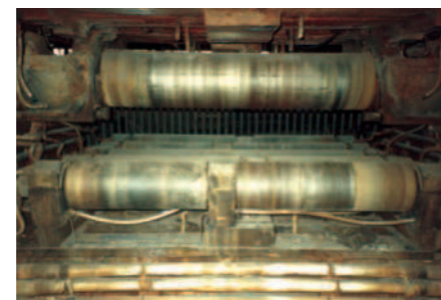
## Cooling beds

SKF Cooper bearings have an important role in keeping hot steel moving, often under wet and dirty conditions.



## Transfer tables

Moving ton after ton of heavy steel slabs and products smoothly to where they are needed places considerable demands on bearings. SKF Cooper products are more than up to the task.



## Continuous caster

Proven in steelworks worldwide, our watercooled bearings take temperature variations in their stride and deliver typical working lives of 2 m tons (upper segments) and 1 m tons (lower segments).



## Pilger mills

Pilger mills large and small around the world benefit from the reliability and easy accessibility for inspection of SKF Cooper roller bearings.



## Motors and generators

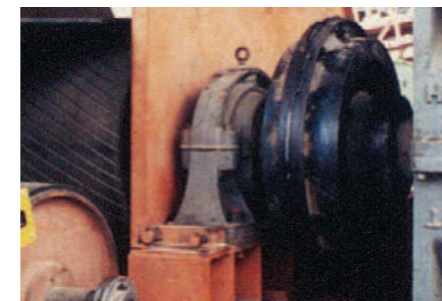
SKF Cooper bearings play a key part in electricity generation and in all kinds of motors throughout the steel industry. They are particularly valued in trapped locations, where they drastically reduce maintenance costs.



## Link spindles

A key application in the steel forming process, link spindles require solutions offering higher uptime and minimising maintenance costs.

SKF Cooper have developed a new double ring split bearing design, providing customers increased capacity, easier and quicker assembly and improved self-aligning benefits compared with our 'traditional' design.



## Conveyors

On all types of conveyor, headshafts, drive drums and return drums, SKF Cooper roller bearings play an important part in keeping raw materials moving across the industry.



## Fans and blowers

From blast furnaces to dust extraction systems, SKF Cooper bearings are coping with constant speed, rapid acceleration/ deceleration or any combination of the two.

## Custom-made and tailored products for the steel industry

SKF Cooper has the skills and equipment to carry out any degree of customization, from special products built 'from the ground up' to meet your exact need, to minor modifications.

As an example, the oneoff bearing shown on the right, was designed and manufactured for for a customer's Pilger mill. It features a brass cage, and large, high capacity rollers.

03 Series 300 mm GR Pilger mill bearing



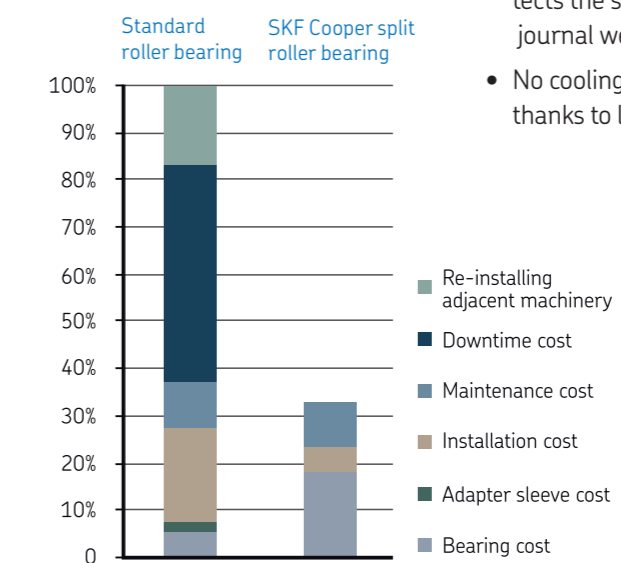
## The basis of phenomenal through-life cost savings – SKF Cooper roller bearings are split to the shaft

Bearing installation is fast and easy no matter how 'trapped' the location.

- No shaft realignment is required.
- Inspection is simple and fast, aiding planned maintenance and reducing both downtime and "unexpected" failure.

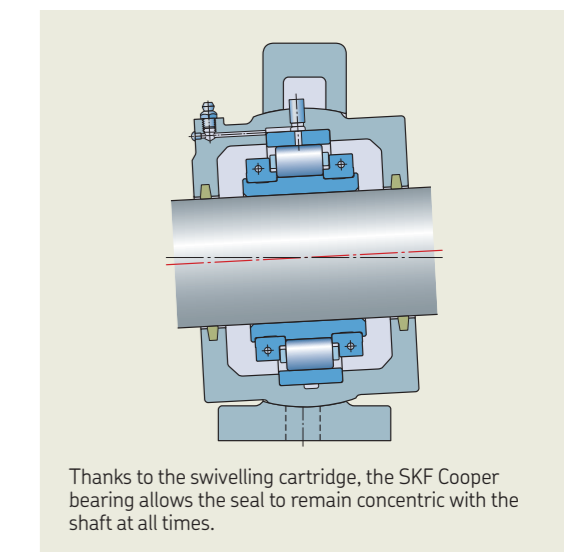
- Smaller range of operations needed, leading to task and toolbox simplification.
- Handling weights are reduced (smaller, lighter pieces). Lifting gear is not required for most Cooper sizes. No lifting of nearby equipment is required.
- A better long-term solution: the SKF Cooper inner race protects the shaft and eliminates journal wear.
- No cooling system is needed, thanks to low friction.

## Cost savings



## The secret of long bearing life: a seal that stays aligned with the shaft, even when the shaft is misaligned

- Full seal integrity even if the shaft moves  $\pm 2.5^\circ$ .
- Reduction of foreign material ingress, even in very dusty environments.
- No running-in period needed.
- Little lubricant leakage, making lubrication simpler and keeping work surfaces cleaner.



Thanks to the swivelling cartridge, the SKF Cooper bearing allows the seal to remain concentric with the shaft at all times.